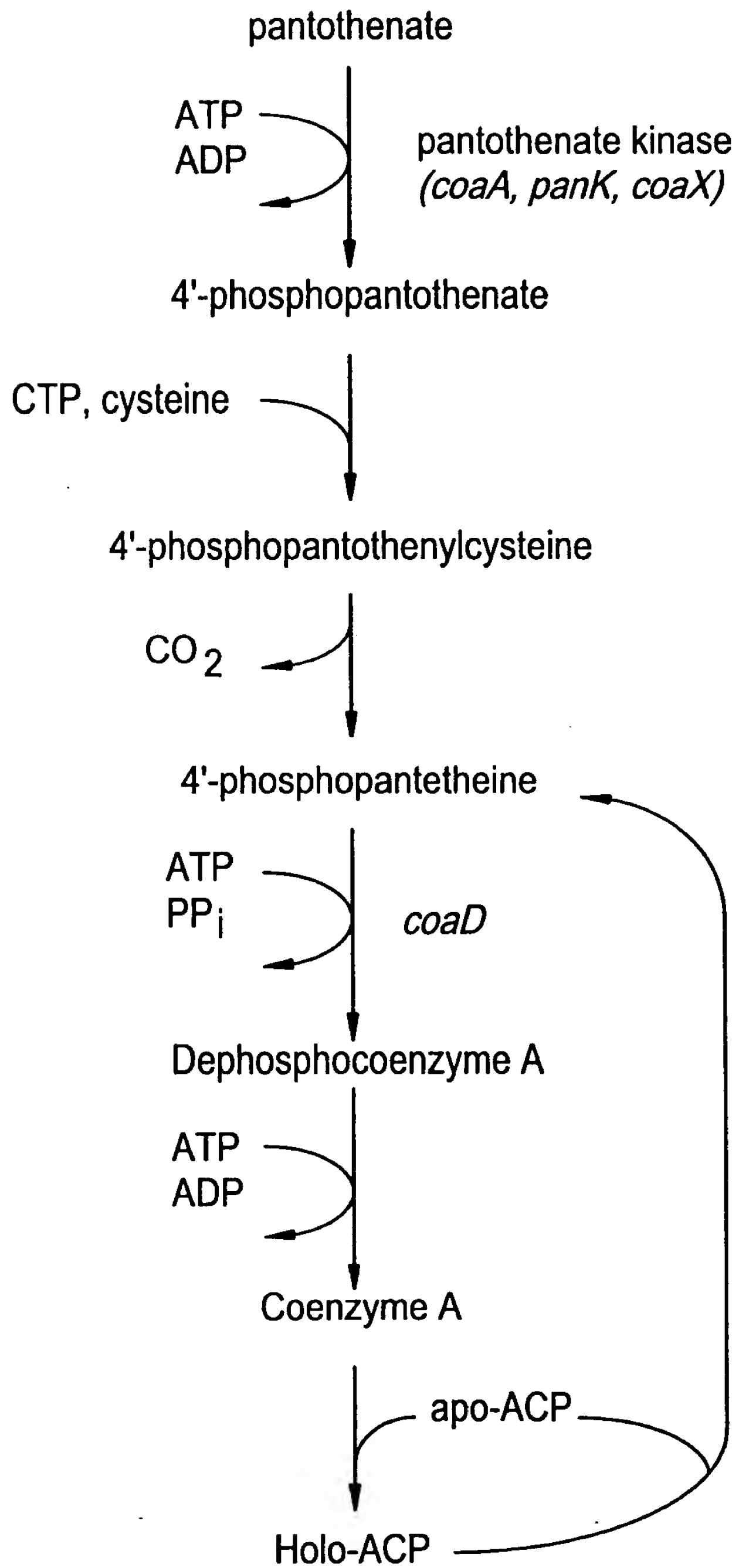




FIG. 1

#5



09613453-010802

FIG. 2

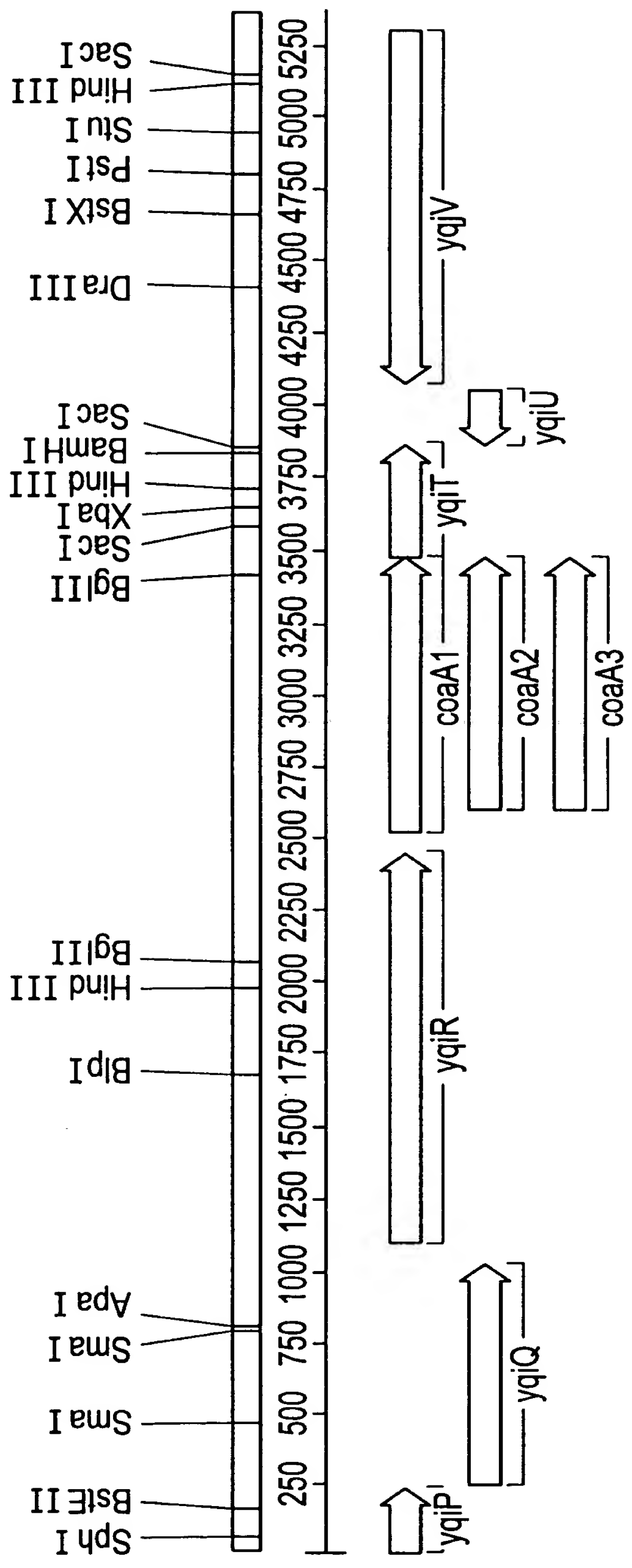




FIG. 3

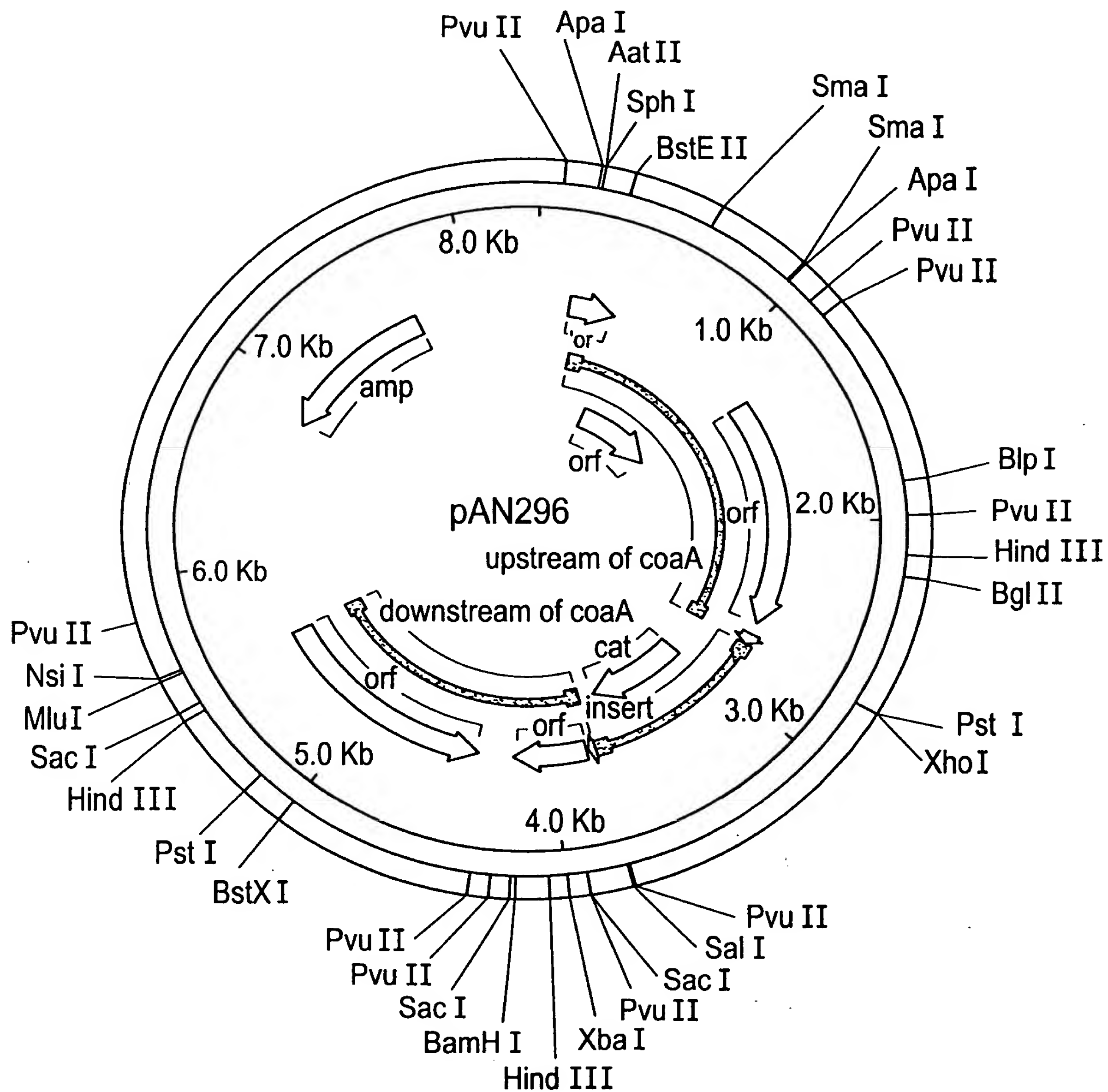


FIG. 4

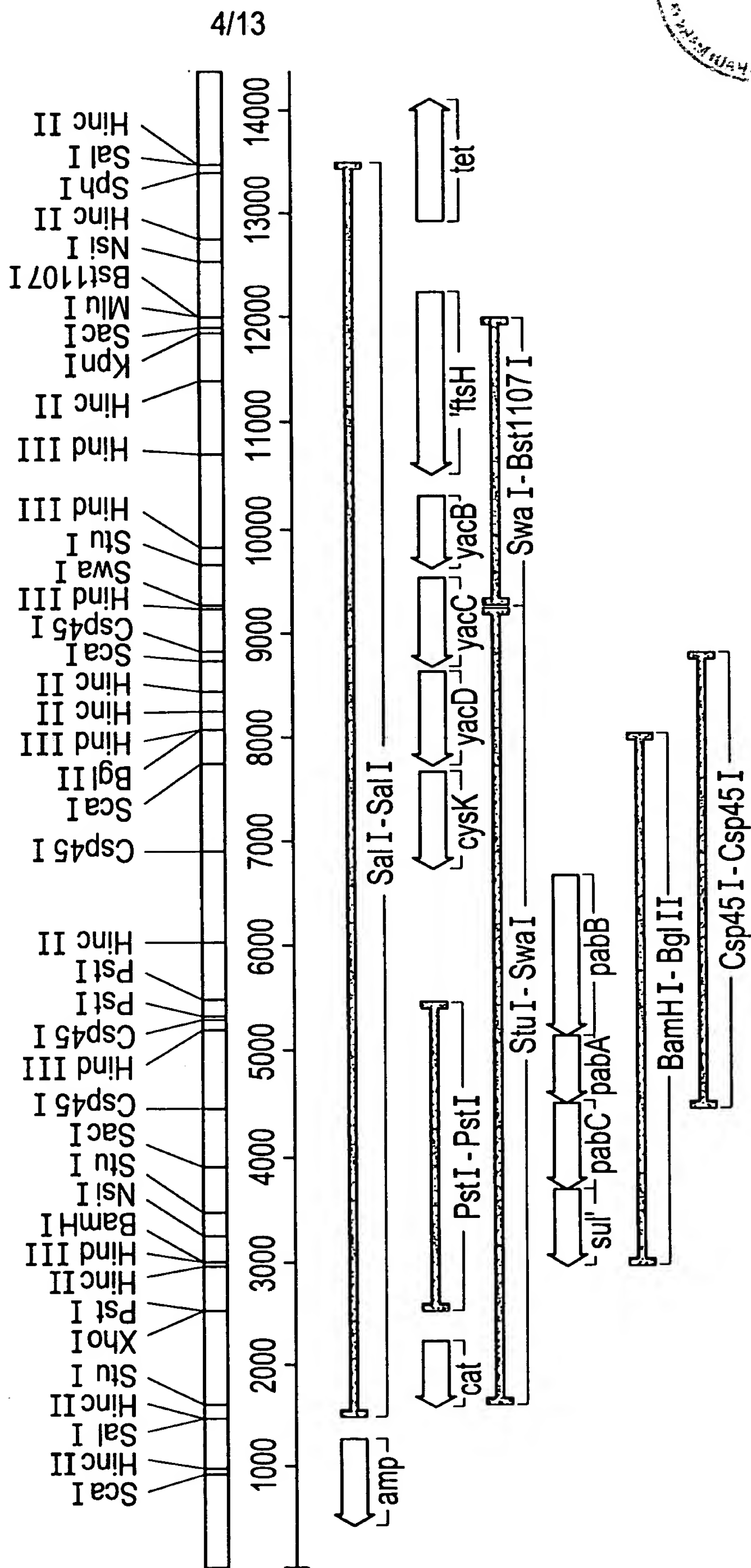




FIG. 5

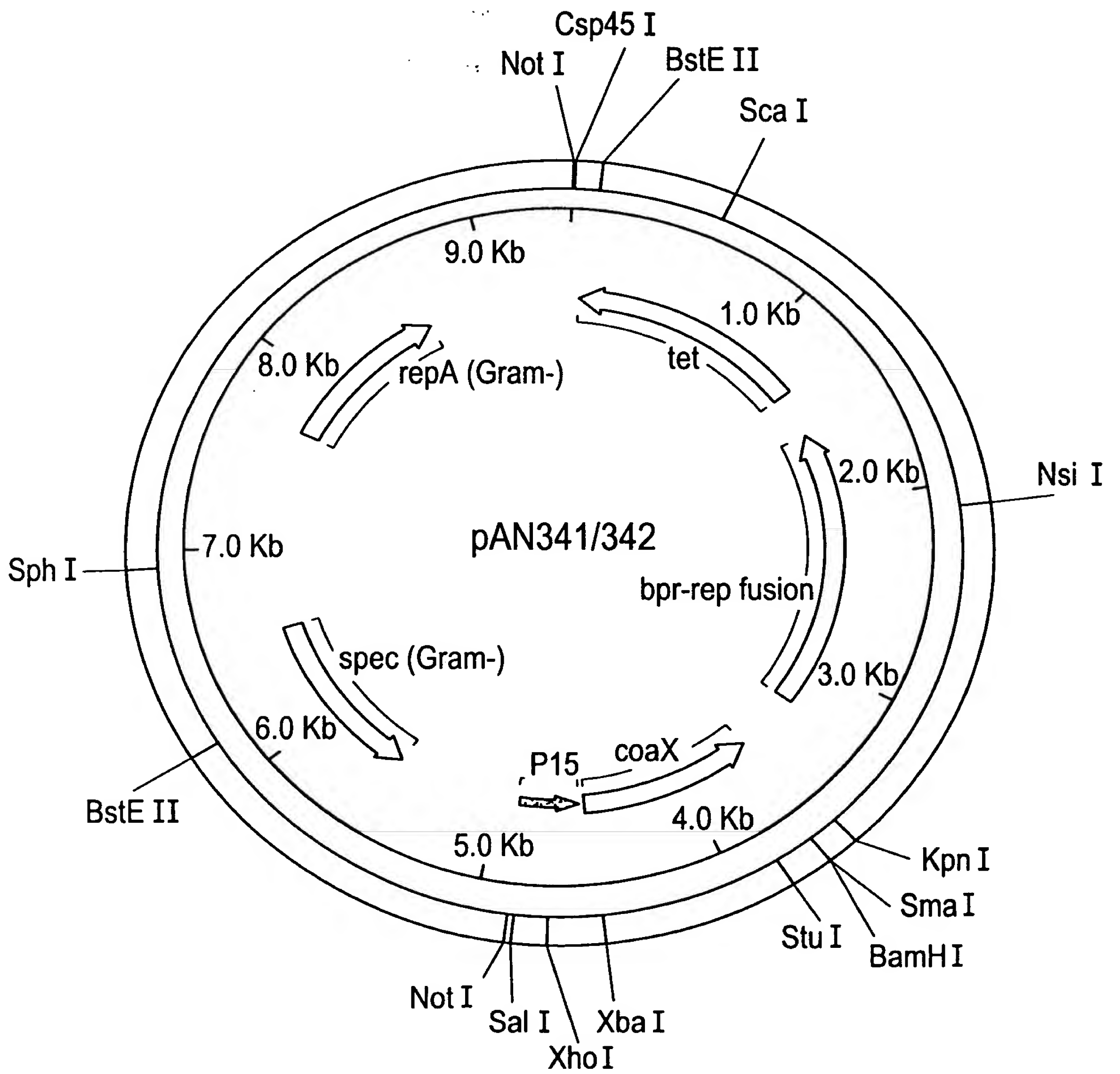


FIG. 6A

CLUSTAL W (1.7) Multiple Sequence Alignments

Sequence type explicitly set to Protein

Sequence format is Pearson

Seq. 1: B.subtilis Coax SEQNO_9	258 aa	Seq. 8: sp O51477 B.burgdorferi	262 aa
Seq. 2: dbj BAA21476.1 D.vulgaris	212 aa	Seq. 9: sp P74045 Synechocystis	257 aa
Seq. 3: gb AAD35964.1 T.maritima	246 aa	Seq. 10: sp O25533 H.pylori	223 aa
Seq. 4: pir T36391 S.coelicolor	265 aa	Seq. 11: sp O67753 A.aeolicus	229 aa
Seq. 5: sp Q45338 B.pertussis	267 aa	Seq. 12: sp Q9RX54 D.radiodurans	262 aa
Seq. 6: sp O06282 M.tuberculosis	272 aa	Seq. 13: WIT RCA03301 C.acetobutylicum	250 aa
Seq. 7: sp O83446 T.pallidum	273 aa	Seq. 14: WIT RRC02473 R.capsulatus	258 aa

B.subtilis|Coax|SEQIDNO_9
WIT|RCA03301|C.acetobutylicum
pir|T36391|S.coelicolor
sp|O06282|M.tuberculosis
WIT|RRC02473|R.capsulatus
dbj|BAA21476.1|D.vulgaris
sp|Q9RX54|D.radiodurans
gb|AAD35964.1|T.maritima
sp|O83446|T.pallidum
sp|O51477|B.burgdorferi
sp|O67753|A.aeolicus
sp|P74045|Synechocystis
sp|O25533|H.pylori
sp|Q45338|B.pertussis

-----MLLVIDVGNTNTVLGVYHDG-----KLEYHWRIE
NKRAAFMLLLFLRSVLKVILVLDVGNTNIVLGIYNDT-----KLTAEWRLS
-----MLLTIDVGNTHTVLGLFDGE-----DIVEHWRIS
-----MLLAIDVRNTHTVVGLLSGMKEHAKVVQQWRIR
-----MLLCIDCGNTNTVFSVWDGT-----DFAATWRIA
-----MTQHFLLEDIGNTNVKIGIAVET-----AVLTSYVLP
-----MPAFPLLAVDIGNTTTLGLADASG-----ALHTWRIR
-----MYLLVDVGNTSHSVFSITEDG-----KTFRRWRLS
-----MLLIDVGNSHVVFQIGENGGRVCVRELFRLA
-----MNKPLLSELIIDIGNTSIAFALEKDN-----QVNLEIKMK
-----MRFLTVDVGNSSVDIALWEGK-----KVK
-----METSKEGGLALDNDKQKPLGLMIGN-----SRLHWAYC
-----MPARQSFTDLKN-----LVLCDIGN-----TR
-----MIILIDSGNSRLKVGWFDPPAP--QAAREPAPV

* :

FIG. 6B

B. subtilis|Coax|SEQIDNO_9
WIT|RCA03301|C. acetobutylicum
pir|T36391|S. coelicolor
sp|O06282|M. tuberculosis
WIT|RR02473|R. capsulatus
dbj|BAA21476.1|D. vulgaris
sp|Q9RX54|D. radiodurans
gb|AAD35964.1|T. maritima
sp|O83446|T. pallidum
sp|O51477|B. burgdorferi
sp|O67753|A. aeolicus
sp|P74045|Synechocystis
sp|O25533|H. pylori
sp|Q45338|B. pertussis

B. subtilis|Coax|SEQIDNO_9
WIT|RCA03301|C. acetobutylicum
pir|T36391|S. coelicolor
sp|O06282|M. tuberculosis
WIT|RR02473|R. capsulatus
dbj|BAA21476.1|D. vulgaris
sp|Q9RX54|D. radiodurans
gb|AAD35964.1|T. maritima
sp|O83446|T. pallidum
sp|O51477|B. burgdorferi
sp|O67753|A. aeolicus
sp|P74045|Synechocystis
sp|O25533|H. pylori
sp|Q45338|B. pertussis

TSRKTEDFGMILRSFDHS---GLMFEQIDGIISSVVPPIMFALER
TDVLSADEYGIQVMNLFQD---KLDPTLVEGVIISSVVPNIMYSLEH
TDSRRTADELAVLLQGLMGHPLLGDELGDGIDGIAICATVPSVLHELRE
TESEVTADELALTIDGLIG-----EDSERLTGTAALSTVPSVLHEVRI
TDHRRTADEYFVWLNLTLMQLK-----GLQGRISEAIISSAPRVVFNLRV
TDPGQTTDSIGRLLEVLRHAG-----LGPADVACVASSVVPVGNPLIRR
TNREMLPDDLALQLHGLFTLA-----GAP-IPRAAVLSSVAPPVGENYAL
TGVFQTEDELEFSLHPLLG-----DAMREIKGIGVASVPTQNTVIER
PDARKTQDEYSLLIHALCERAG-----VGRASLRDAFISSVVPVLTKTIA
TNLMRLRYDEVYSFFEEENFDN-----VN---K-VFISVVPIILNETFKN
DFLKLSHHEEFLKEEFPKLK-----ALGISVKQSESEKVRG
SGNAPLQTWVTDYNPKSAQLP-----VLLGKVPLMLASVVPE
IHEAQNYQLFSSAKEDLKR-----LGIQKEIFYISVNEE
AFDNLDDLALGRWLATLPRRP-----Q-----RALGVNVAGLARGEAIA

MCTKYFHIEPQIVG-PG-MKTGLNIKYDNPKEVGADRIVNAVAIHLYG-
MIRKYFKINPLVVG-PG-IKTGINIKYDNPKEVGADRIVNAVAHEIYK-
VTRRYGDPVPAVLVEPG-VKTGVPIILTDHPKEVGADRIINAVAAVELYG-
MLDQYWPSPVPHVLIIEPG-VRTGIPLLVDNPKEVGADRIVNCLAAAYDRFR-
LCNRYFDCRPYVVGKPG-CELPVAPRVDPGTTVGPDRLVNTVAGYDRHG-
ACERYL--YRKLLEFAPGDIAIPLDNRVERPÆVGADRLVAAYARRLYP-
ALKRHFMDAFAVSAEN--LPDVTVELDTPGSVGADRLCNLFGAEKYLIG-
FSQKYFHIPIWVKAKN---GCVKWNVKNPSEVGADRVANVAVFVKEYG-
AVAQISGVQPVVFGPWAYEHLPVRIPEPVRAEIGTDLVANAVAAVHFR-
VIFSEFKIKPLFIGFDLNYDLTFNPYKSDKFLLGSDVFANLVAAIENYS-
KIPKIK-----FLKKEN---FPIQVDYKTPETLGTDRVALAYSAKKFGY-
QTEVWRVYQPKILTLKN---LPLVNLYP---SFGIDRALAGLGTGLTYG-
NEKALLNCYPNAKNIAG---FFHLETDYVG---LGIDROMACLA---VN---
ATLRAGGCDIRWLRAQP-LAMGLRNGYRNPDLGADRWACMVGLARQPS

. * *



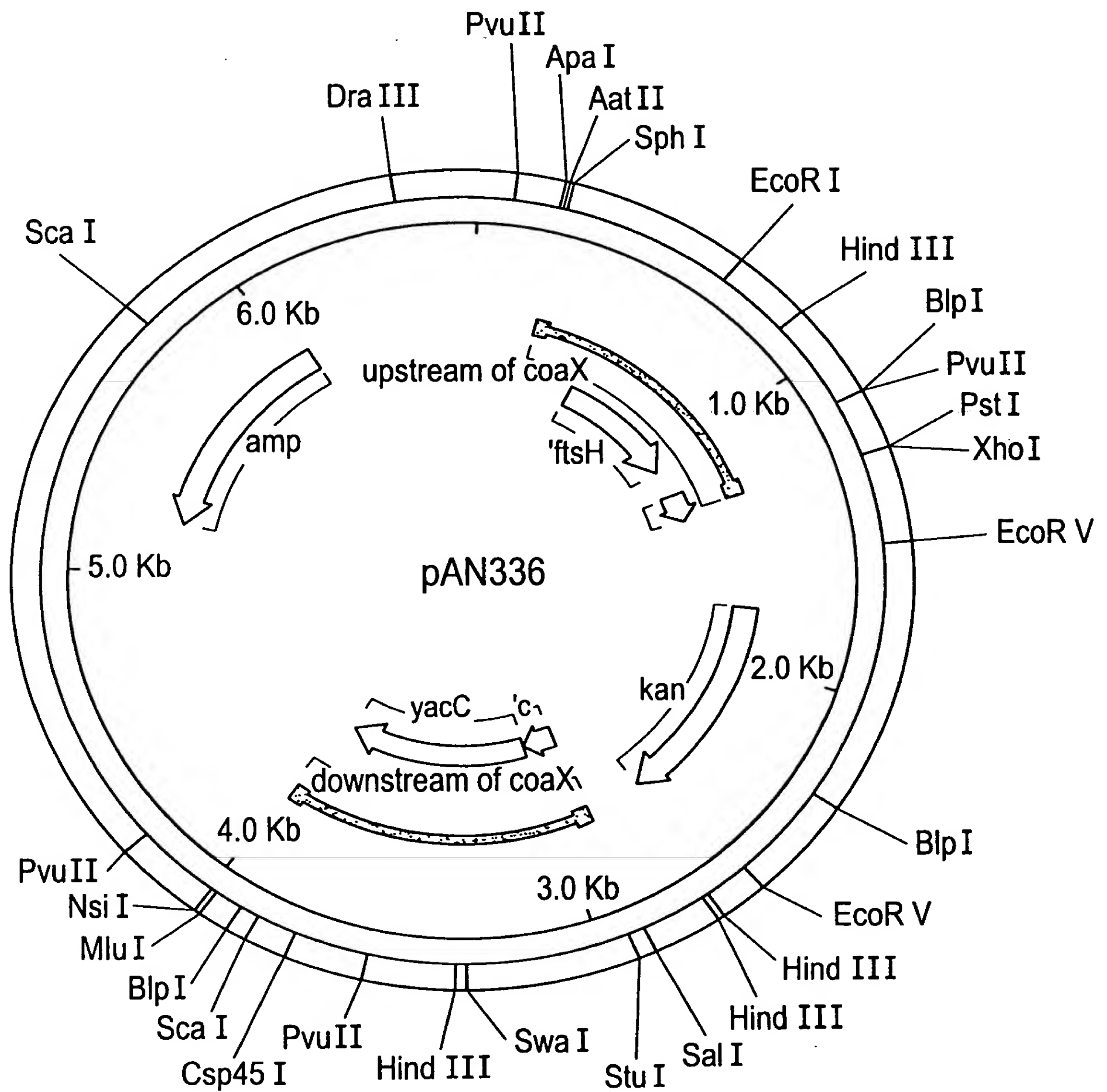


FIG. 6D

B. subtilis Coax SEQIDNO_9	-----VIATGG-----LAPLIANES-----DCIDIVDPFLLKGLLELI
WIT RCA03301 C. acetobutylicum	RTSLVLATGG-----LAKLIN-----
pir T36391 S. coelicolor	DDVTVIATGG-----LAPMVLGES-----SVIDHEFWLTMGLRLV
sp O06282 M. tuberculosis	HDVAIVATGH-----TAPLLPEL-----HTVDHYDQHLTLQGLRLV
WIT RRC02473 R. capsulatus	--MKVIATGG-----LASLFDLGF-----DLFDKVEDDLTMHGLRLI
dbj BAA21476.1 D. vulgaris	-----
sp Q9RX54 D. radiodurans	--AVAVATGG-----FSRTVQGIC-----QEIDYYDETLTLRGLVEL
gb AAD35964.1 T. maritima	----VVLTTGG-----QSKIVK-DM-----IKHEIFDEDLTIKGVYHF
sp O83446 T. pallidum	--CAAVITGG-----LSRLFS-SE-----VDEPPIDAQLTSLGLAHI
sp O51477 B. burgdorferi	--FNLIITGG-----NADLILSLI-----EIEFIFNIHLTVEGVRIL
sp O67753 A. aeolicus	--FKVVITGG-----EGKYFS-----KFGIYDPLLVHRGMRNL
sp P74045 Synechocystis	---AMVITGG-----DGKILHGFLKEHSPNLSVAWDDNLIFLGMAAI
sp O25533 H. pylori	----IYLCGG-----DAKYLSAFL-----PHSVCKERLVFDGMELIA
sp Q45338 B. pertussis	---EIYVAGGGWPEVRQEAERLLAVTGAAFGATPQPTYLDSPVLDGLAAL
B. subtilis Coax SEQIDNO_9	YERNRVGSV-----
WIT RCA03301 C. acetobutylicum	-----
pir T36391 S. coelicolor	YERNVSRM-----
sp O06282 M. tuberculosis	FERNLEVQGRRLKTAR----
WIT RRC02473 R. capsulatus	FDYNKGLGA-----
dbj BAA21476.1 D. vulgaris	-----
sp Q9RX54 D. radiodurans	WASRSEVR-----
gb AAD35964.1 T. maritima	CFGD-----
sp O83446 T. pallidum	ARLVPTSLLPPATVSGSSGN
sp O51477 B. burgdorferi	GNSIDFKFVN-----
sp O67753 A. aeolicus	LYLYHRI-----
sp P74045 Synechocystis	HGDRPIC-----
sp O25533 H. pylori	LKKAGILECK-----
sp Q45338 B. pertussis	AAQGAPTA-----



FIG. 7



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FIG. 8

Construction of pOTP72

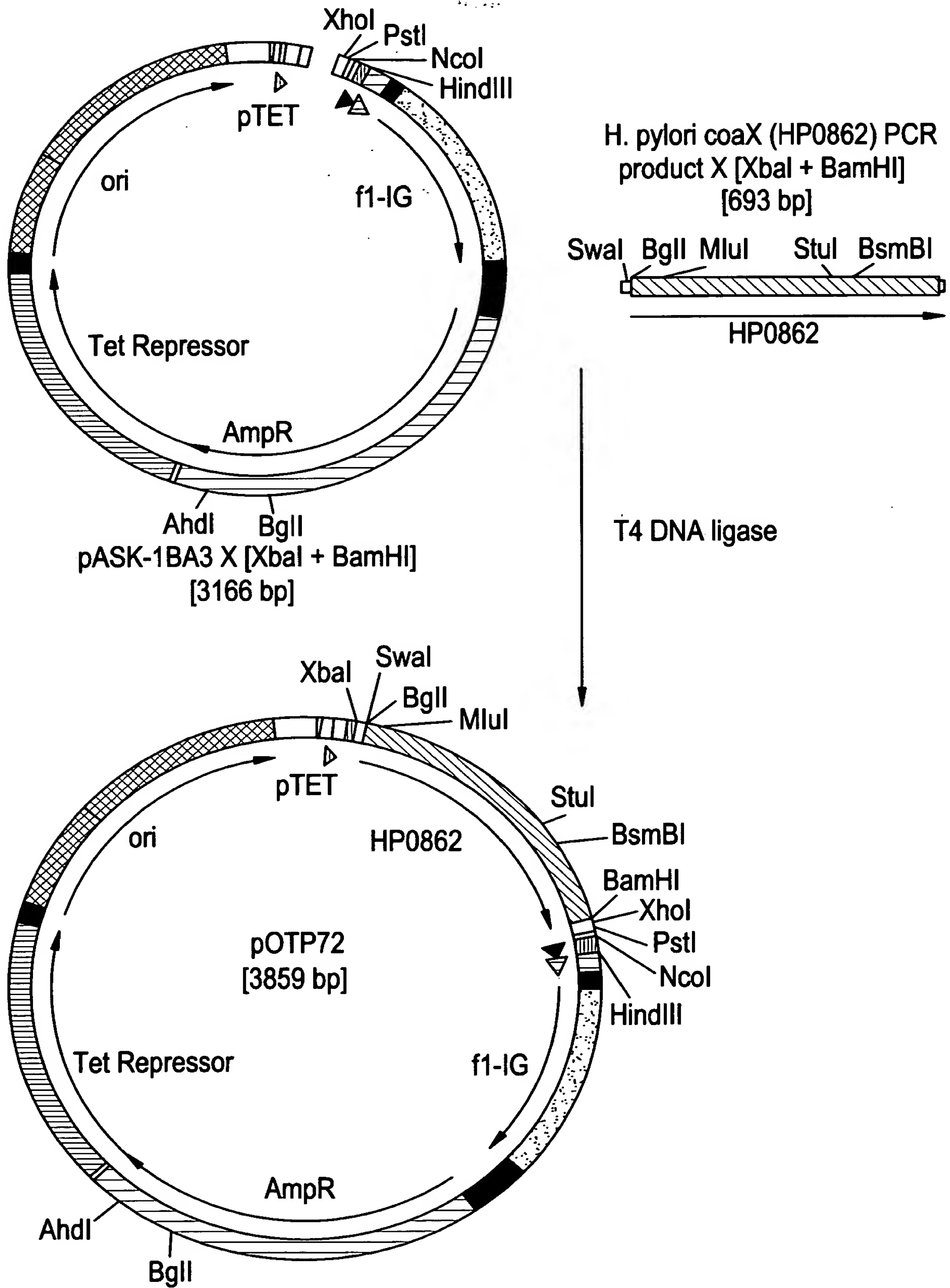


FIG. 9

Construction of pOTP73

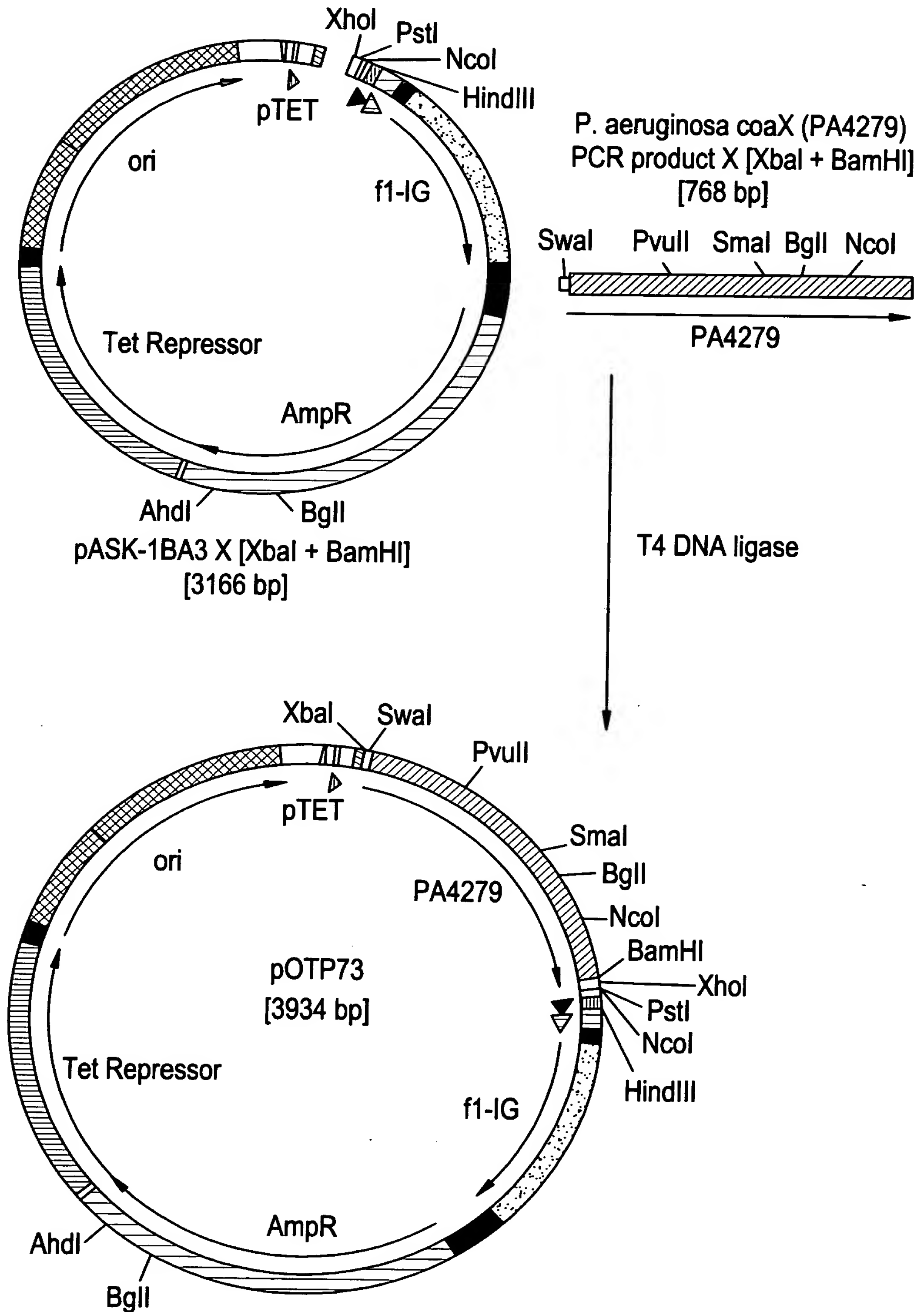
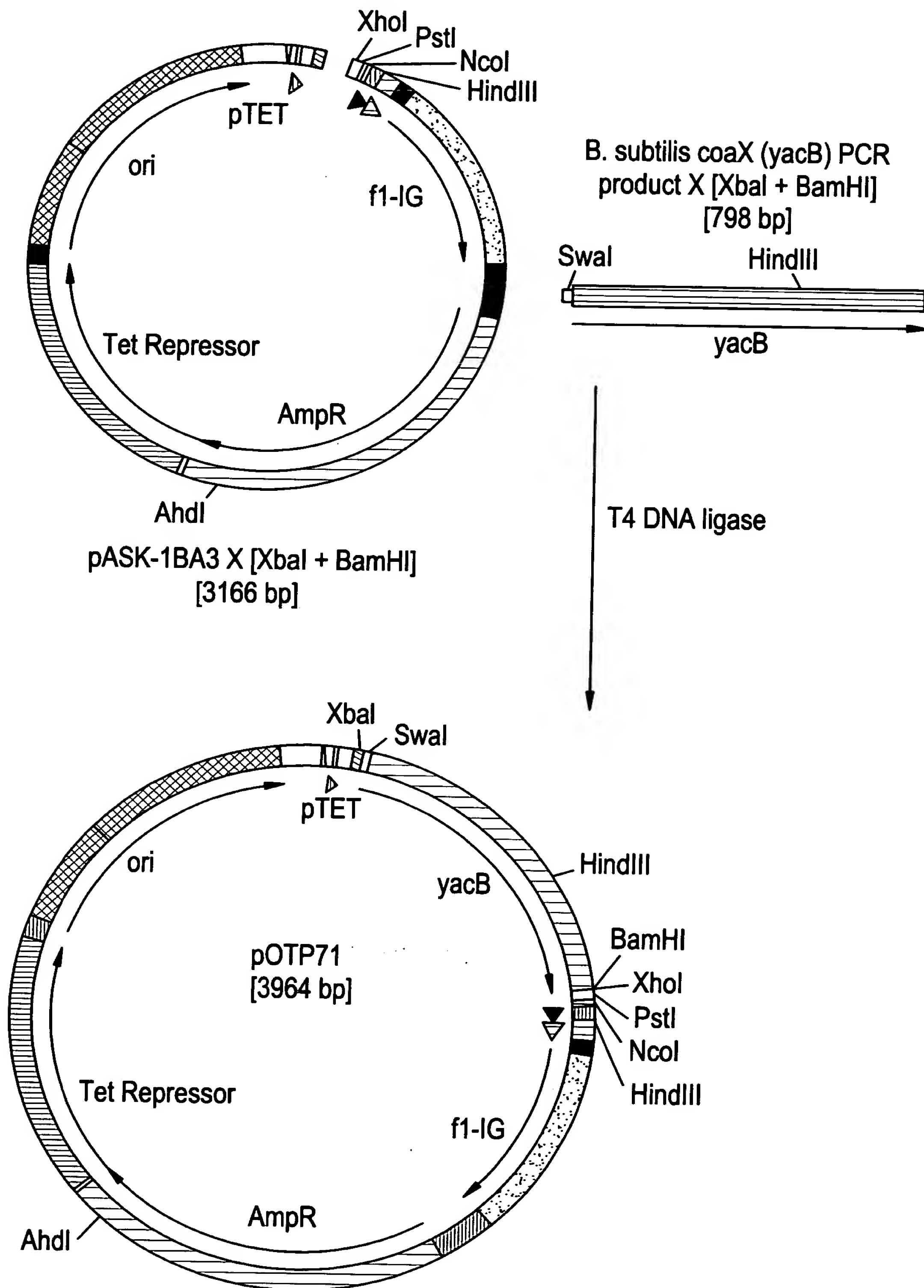


FIG. 10

Construction of pOTP71



203010"EST860